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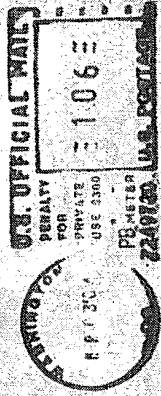
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APPL NO	FILING OR 371 (c) DATE	ART UNIT	FIL FEE RECD	ATTY DOCKET
10/647,519	08/26/2003	1644	501	2314-268

6449  
ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
1425 K STREET, N.W.  
SUITE 800

JC-404





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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/647,519	08/26/2003	1644	501	2314-269	48	20	6

CONFIRMATION NO. 5270

6449

ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
 1425 K STREET, N.W.  
 SUITE 800  
 WASHINGTON, DC 20005



\*OC000000012014126\*

Date Mailed: 03/03/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

**Applicant(s)**

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 Karel S. Kits, Amsterdam, NETHERLANDS;  
 Alma L. Burlingame, Sausalito, CA;  
 Baldomero M. Olivera, Salt Lake City, UT;  
 Craig Walker, Salt Lake City, UT;  
 Maren Watkins, Salt Lake City, UT;  
 Reshma Shetty, Salt Lake City, UT;  
 Lourdes J. Cruz, Manila, PHILIPPINES;  
 Julita Imperial, Salt Lake City, UT;  
 Clark Colledge, Draper, UT;

**Assignment For Published Patent Application**

Cognetix Inc., Salt Lake City, UT;  
 University of Utah Research Foundation, Salt Lake City, UT;

**Domestic Priority data as claimed by applicant**

This application is a CON of 09/210,952 12/15/1998 PAT 6,624,288  
 which claims benefit of 60/069,706 12/16/1997

**Foreign Applications**

If Required, Foreign Filing License Granted: 01/12/2004

Projected Publication Date: To Be Determined - pending completion of Sequence Disclosures

Early Publication Request: No

**\*\* SMALL ENTITY \*\***

**Title**

Gamma-conopeptides

**Preliminary Class**

530

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Title 37, Code of Federal Regulations, 5.11 & 5.15**

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/647,519	08/26/2003	Michael M. Fainzilber	2314-269

CONFIRMATION NO. 5270

6449

ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
 1425 K STREET, N.W.  
 SUITE 800  
 WASHINGTON, DC 20005

## FORMALITIES LETTER



\*OC000000012014125\*

Date Mailed: 03/03/2004

# NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

*Filing Date Granted*

Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
- To Purchase PatentIn Software, call (703) 306-2600
- For PatentIn Software Program Help, call (703) 306-4119 or e-mail at [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or [patin3help@uspto.gov](mailto:patin3help@uspto.gov)

Replies should be mailed to: Mail Stop Missing Parts  
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 P.O. Box 1450  
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Z. Araya

Customer Service Center

Initial Patent Examination Division (703) 308-1202

PART 1 - ATTORNEY/APPLICANT COPY



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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/647,519	08/26/2003	Michael M. Fainzilber	2314-269

CONFIRMATION NO. 5270

6449  
 ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
 1425 K STREET, N.W.  
 SUITE 800  
 WASHINGTON, DC 20005

## FORMALITIES LETTER



\*OC000000012014125\*

Date Mailed: 03/03/2004

# NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

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Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file the items indicated below to avoid abandonment. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

For questions regarding compliance to these requirements, please contact:

- For Rules Interpretation, call (703) 308-4216
- To Purchase PatentIn Software, call (703) 306-2600
- For PatentIn Software Program Help, call (703) 306-4119 or e-mail at [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or [patin3help@uspto.gov](mailto:patin3help@uspto.gov)

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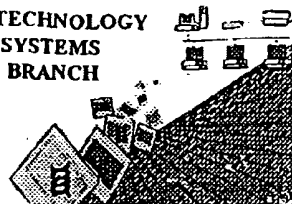
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2. Araya  
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**RAW SEQUENCE LISTING**  
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Application Serial Number: 10/647,519  
Source: IFWO  
Date Processed by STIC: 2/13/04

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**FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 703-308-4212; FAX: 703-308-4221**

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Revised 10/08/03





IFWO

## RAW SEQUENCE LISTING

DATE: 02/13/2004

PATENT APPLICATION: US/10/647,519

TIME: 12:04:44

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

3 <110> APPLICANT: Fainzilber, Michael M.  
4 Kits, Karel S.  
5 Burlingame, Alma L.  
6 Olivera, Baldomero M.  
7 Walker, Craig  
8 Watkins, Maren  
9 Shetty, Reshma  
10 Cruz, Lourdes J.  
11 Imperial, Julita  
12 Colledge, Clark  
13 University of Utah Resarch Foundation  
14 Vrije Universiteit  
15 Regents of the University of California  
17 <120> TITLE OF INVENTION: Gamma-Conopeptides  
19 <130> FILE REFERENCE: 2314-147-sq2  
C--> 21 <140> CURRENT APPLICATION NUMBER: US/10/647,519  
C--> 22 <141> CURRENT FILING DATE: 2003-08-26  
24 <150> PRIOR APPLICATION NUMBER: US 60/069,706  
25 <151> PRIOR FILING DATE: 1997-12-16  
27 <160> NUMBER OF SEQ ID NOS: 47  
29 <170> SOFTWARE: PatentIn Ver. 2.0  
31 <210> SEQ ID NO: 1  
32 <211> LENGTH: 42  
33 <212> TYPE: PRT  
34 <213> ORGANISM: Artificial Sequence  
36 <220> FEATURE:  
37 <223> OTHER INFORMATION: Description of Artificial Sequence:generic formula  
38 of gamma-conopeptides  
40 <220> FEATURE:  
41 <221> NAME/KEY: PEPTIDE  
42 <222> LOCATION: (1)..(13)  
43 <223> OTHER INFORMATION: Xaa at residues 1, 2, 3, 4, 5, and 6 may be  
44 des-Xaa or any amino acid; Xaa at residues 8, 9,  
45 10, 11 and 12 may be any amino acid; Xaa at  
46 residue 13 may be des-Xaa or any amino acid.  
48 <220> FEATURE:  
49 <221> NAME/KEY: PEPTIDE  
50 <222> LOCATION: (15)..(19)  
51 <223> OTHER INFORMATION: Xaa at residues 15, 16, 17 and 18 may be any amino  
52 acid; Xaa at residue 19 is Glu,  
53 gamma-carboxyglutamate or Gln.  
55 <220> FEATURE:  
56 <221> NAME/KEY: PEPTIDE

pg. 6  
Does Not Comply  
Corrected Diskette Needed  
(pg. 7-9)

## RAW SEQUENCE LISTING

DATE: 02/13/2004

PATENT APPLICATION: US/10/647,519

TIME: 12:04:44

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

57 <222> LOCATION: (22)..(28)  
 58 <223> OTHER INFORMATION: Xaa at residues 22, 23 and 24 may be any amino  
 59 acid; Xaa at residue 25 may be des-Xaa or any  
 60 amino acid; Xaa at residues 27, 28 and 29 may be  
 61 any amino acid.  
 63 <220> FEATURE:  
 64 <221> NAME/KEY: PEPTIDE  
 65 <222> LOCATION: (30)..(42)  
 66 <223> OTHER INFORMATION: Xaa at residues 30, 31 and 32 may be des-Xaa or  
 67 any amino acid; Xaa at residues 34, 35, 36, 37,  
 68 38, 39, 40, 41 and 42 may be des-Xaa or any amino  
 69 acid.  
 71 <400> SEQUENCE: 1  
 W--> 72 Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa  
 73 1 5 10 15  
 75 Xaa Xaa Xaa Cys Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa  
 76 20 25 30  
 78 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 79 35 40  
 82 <210> SEQ ID NO: 2  
 83 <211> LENGTH: 42  
 84 <212> TYPE: PRT  
 85 <213> ORGANISM: Artificial Sequence  
 87 <220> FEATURE:  
 88 <223> OTHER INFORMATION: Description of Artificial Sequence:generic  
 89 sequence of gamma-conopeptides.  
 91 <220> FEATURE:  
 92 <221> NAME/KEY: PEPTIDE  
 93 <222> LOCATION: (1)..(13)  
 94 <223> OTHER INFORMATION: Xaa at residues 1, 2, 3, 4, 5 and 6 may be des-Xaa  
 95 or any amino acid; Xaa at residues 8, 9, 10, 11  
 96 and 12 may be any amino acid; Xaa at residue 13  
 97 may be des-Xaa or any amino acid.  
 99 <220> FEATURE:  
 100 <221> NAME/KEY: PEPTIDE  
 101 <222> LOCATION: (15)..(22)  
 102 <223> OTHER INFORMATION: Xaa at residues 15, 16, 17 and 18 may be any amino  
 103 acid; Xaa at residue 19 is Glu,  
 104 gamma-carboxyglutamate or Gln; Xaa at residue 22  
 105 is Ser or Thr.  
 107 <220> FEATURE:  
 108 <221> NAME/KEY: PEPTIDE  
 109 <222> LOCATION: (23)..(29)  
 110 <223> OTHER INFORMATION: Xaa at residues 23 and 24 may be any amino acid;  
 111 Xaa at residue 25 may be des-Xaa or any amino  
 112 acid; Xaa at residues 27, 28 and 29 may be any  
 113 amino acid.  
 115 <220> FEATURE:  
 116 <221> NAME/KEY: PEPTIDE

## RAW SEQUENCE LISTING

DATE: 02/13/2004

PATENT APPLICATION: US/10/647,519

TIME: 12:04:44

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

117 &lt;222&gt; LOCATION: (30)..(42)

118 <223> OTHER INFORMATION: Xaa at residues 30, 31 and 32 may be des-Xaa or  
 119 any amino acid; Xaa at residues 34, 35, 36, 37,  
 120 38, 39, 40, 41 and 42 may be des-Xaa or any amino  
 121 acid.

123 &lt;400&gt; SEQUENCE: 2

W--&gt; 124 Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa

125 1 5 10 15

127 Xaa Xaa Xaa Cys Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa

128 20 25 30

130 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

131 35 40

134 &lt;210&gt; SEQ ID NO: 3

135 &lt;211&gt; LENGTH: 39

136 &lt;212&gt; TYPE: PRT

137 &lt;213&gt; ORGANISM: Artificial Sequence

139 &lt;220&gt; FEATURE:

140 <223> OTHER INFORMATION: Description of Artificial Sequence:generic formula  
 141 of gamma-conopeptides

143 &lt;220&gt; FEATURE:

144 &lt;221&gt; NAME/KEY: PEPTIDE

145 &lt;222&gt; LOCATION: (1)..(13)

146 <223> OTHER INFORMATION: Xaa at residue 1 is any amino acid; Xaa at  
 147 residues 2, 3, 4, 5 and 6 may be des-Xaa or any  
 148 amino acid; Xaa at residues 8, 9, 10, 11, 12 and  
 149 13 may be any amino acid.

151 &lt;220&gt; FEATURE:

152 &lt;221&gt; NAME/KEY: PEPTIDE

153 &lt;222&gt; LOCATION: (27)..(39)

154 <223> OTHER INFORMATION: Xaa at residues 27, 28, 29, 31, 32, 33, 34, 35, 36  
 155 and 37 may be any amino acid; Xaa at residues 38  
 156 and 39 may be des-Xaa or any amino acid.

158 &lt;220&gt; FEATURE:

159 &lt;221&gt; NAME/KEY: PEPTIDE

160 &lt;222&gt; LOCATION: (15)..(19)

161 <223> OTHER INFORMATION: Xaa at residues 15, 16, 17 and 18 may be any amino  
 162 acid; Xaa at residue 19 is Glu or  
 163 gamma-carboxyglutamate.

165 &lt;400&gt; SEQUENCE: 3

W--&gt; 166 Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa

167 1 5 10 15

169 Xaa Xaa Xaa Cys Cys Ser Asn Ser Cys Asp Xaa Xaa Xaa Cys Xaa Xaa

170 20 25 30

172 Xaa Xaa Xaa Xaa Xaa Xaa

173 35

176 &lt;210&gt; SEQ ID NO: 4

177 &lt;211&gt; LENGTH: 39

178 &lt;212&gt; TYPE: PRT

179 &lt;213&gt; ORGANISM: Artificial Sequence

## RAW SEQUENCE LISTING

DATE: 02/13/2004

PATENT APPLICATION: US/10/647,519

TIME: 12:04:44

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

181 <220> FEATURE:  
 182 <223> OTHER INFORMATION: Description of Artificial Sequence:generic  
 183 sequence of gamma-conopeptides.  
 185 <220> FEATURE:  
 186 <221> NAME/KEY: PEPTIDE  
 187 <222> LOCATION: (1)..(13)  
 188 <223> OTHER INFORMATION: Xaa at residue 1 is any amino acid; Xaa at  
 189 residues 2, 3, 4, 5 and 6 may be des-Xaa or any  
 190 amino acid; Xaa at residues 8, 9, 10, 11, 12 and  
 191 13 may be any amino acid.  
 193 <220> FEATURE:  
 194 <221> NAME/KEY: PEPTIDE  
 195 <222> LOCATION: (15)..(19)  
 196 <223> OTHER INFORMATION: Xaa at residue 15 is Ser or Thr; Xaa at residues  
 197 16, 17 and 18 may be any amino acid; Xaa at  
 198 residue 19 is Glu or gamma-carboxyglutamate.  
 200 <220> FEATURE:  
 201 <221> NAME/KEY: PEPTIDE  
 202 <222> LOCATION: (27)..(39)  
 203 <223> OTHER INFORMATION: Xaa at residues 27, 28, 29, 31, 32, 33, 34, 35, 36  
 204 and 37 may be any amino acid; Xaa at residues 38  
 205 and 39 may be des-Xaa or any amino acid.  
 207 <400> SEQUENCE: 4  
 W--> 208 Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa  
 209 1 5 10 15  
 211 Xaa Xaa Xaa Cys Cys Ser Asn Ser Cys Asp Xaa Xaa Xaa Cys Xaa Xaa  
 212 20 25 30  
 214 Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 215 35  
 218 <210> SEQ ID NO: 5  
 219 <211> LENGTH: 34  
 220 <212> TYPE: PRT  
 221 <213> ORGANISM: Artificial Sequence  
 223 <220> FEATURE:  
 224 <223> OTHER INFORMATION: Description of Artificial Sequence:generic  
 225 sequence of gamma-conopeptides.  
 227 <220> FEATURE:  
 228 <221> NAME/KEY: PEPTIDE  
 229 <222> LOCATION: (1)..(6)  
 230 <223> OTHER INFORMATION: Xaa at residues 1 and 2 may be des-Xaa or any  
 231 amino acid; Xaa at residue 3 is Asp, Glu or  
 232 gamma-carboxyglutamate; Xaa at residues 5 and 6  
 233 may be any amino acid.  
 235 <220> FEATURE:  
 236 <221> NAME/KEY: PEPTIDE  
 237 <222> LOCATION: (7)..(16)  
 238 <223> OTHER INFORMATION: Xaa at residue 7 is Trp or 6-bromo-Trp; Xaa at  
 239 residues 9, 10, 13 and 14 may be any amino acid;  
 240 Xaa at residue 16 is Glu or

## RAW SEQUENCE LISTING

DATE: 02/13/2004

PATENT APPLICATION: US/10/647,519

TIME: 12:04:44

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

241 gamma-carboxyglutamate.  
 243 <220> FEATURE:  
 244 <221> NAME/KEY: PEPTIDE  
 245 <222> LOCATION: (28)..(34)  
 246 <223> OTHER INFORMATION: Xaa at residues 28, 30, 31, 32, 33 and 34 may be  
 247 any amino acid.  
 249 <400> SEQUENCE: 5  
**W--> 250 Xaa Xaa Xaa Cys Xaa Xaa Phe Xaa Xaa Cys Thr Xaa Xaa Ser Xaa**  
 251 1 5 10 15  
 253 Cys Cys Ser Asn Ser Cys Asp Gln Thr Tyr Cys Xaa Leu Xaa Xaa Xaa  
 254 20 25 30  
 256 Xaa Xaa  
 260 <210> SEQ ID NO: 6  
 261 <211> LENGTH: 32  
 262 <212> TYPE: PRT  
 263 <213> ORGANISM: Conus pennaceus  
 265 <220> FEATURE:  
 266 <221> NAME/KEY: PEPTIDE  
 267 <222> LOCATION: (1)..(31)  
 268 <223> OTHER INFORMATION: Xaa at residue 5 is Trp or 6-bromo-Trp; Xaa at  
 269 residues 14 and 26 are Glu or  
 270 gamma-carboxyglutamate; Xaa at residue 31 is Pro  
 271 or hydroxy-Pro.  
 273 <400> SEQUENCE: 6  
**W--> 274 Asp Cys Thr Ser Xaa Phe Gly Arg Cys Thr Val Asn Ser Xaa Cys Cys**  
 275 1 5 10 15  
 277 Ser Asn Ser Cys Asp Gln Thr Tyr Cys Xaa Leu Tyr Ala Phe Xaa Ser  
 278 20 25 30  
 284 <210> SEQ ID NO: 7  
 285 <211> LENGTH: 34  
 286 <212> TYPE: PRT  
 287 <213> ORGANISM: Conus textile  
 289 <220> FEATURE:  
 290 <221> NAME/KEY: PEPTIDE  
 291 <222> LOCATION: (1)..(34)  
 292 <223> OTHER INFORMATION: Xaa at residues 1, 7 and 34 are Trp or  
 293 6-bromo-Trp; Xaa at residues 3 and 16 are Glu or  
 294 gamma-carboxyglutamate; Xaa at residues 31 and 32  
 295 are Pro or hydroxy-Pro.  
 297 <400> SEQUENCE: 7  
**W--> 298 Xaa Leu Xaa Cys Ser Val Xaa Phe Ser His Cys Thr Lys Asp Ser Xaa**  
 299 1 5 10 15  
 301 Cys Cys Ser Asn Ser Cys Asp Gln Thr Tyr Cys Thr Leu Met Xaa Xaa  
 302 20 25 30  
 304 Asp Xaa  
 308 <210> SEQ ID NO: 8  
 309 <211> LENGTH: 39  
 310 <212> TYPE: PRT  
 311 <213> ORGANISM: Conus textile

RAW SEQUENCE LISTING ERROR SUMMARY  
 PATENT APPLICATION: US/10/647,519

DATE: 02/13/2004  
 TIME: 12:04:45

Input Set : A:\2314-269seq.txt  
 Output Set: N:\CRF4\02132004\J647519.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,22,23,24,25,27 ✓  
 Seq#:1; Xaa Pos. 28,29,30,31,32,34,35,36,37,38,39,40,41,42 ✓  
 Seq#:2; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,22,23,24,25,27 ✓  
 Seq#:2; Xaa Pos. 28,29,30,31,32,34,35,36,37,38,39,40,41,42 ✓  
 Seq#:3; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,27,28,29,31,32 ✓  
 Seq#:3; Xaa Pos. 33,34,35,36,37,38,39 ✓  
 Seq#:4; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,27,28,29,31,32 ✓  
 Seq#:4; Xaa Pos. 33,34,35,36,37,38,39 ✓  
 Seq#:5; Xaa Pos. 1,2,3,5,6,7,9,10,13,14,16,28,30,31,32,33,34 ✓  
 Seq#:6; Xaa Pos. 5,14,26,34 ✓  
 Seq#:7; Xaa Pos. 1,3,7,16,31,32,34 ✓  
 Seq#:8; Xaa Pos. 1,2,4,10,19,31,34,36,37,39 ✓  
 Seq#:9; Xaa Pos. 9,13,17 ✓  
 Seq#:10; Xaa Pos. 2,3,10,12,18,26,32,33 ✓  
 Seq#:11; Xaa Pos. 3,5,16,18,22,25,31 ✓  
 Seq#:12; Xaa Pos. 1,5,8,11 ✓  
 Seq#:13; Xaa Pos. 5,8,10,15,16,23 ✓  
 Seq#:14; Xaa Pos. 4,9,12,13,17 ✓  
 Seq#:15; Xaa Pos. 8,15,16 ✓  
 Seq#:24; N Pos. 17 ✓  
 Seq#:36; Xaa Pos. 3,7,8,14,18 ✓  
 Seq#:37; Xaa Pos. 1 ✓  
 Seq#:39; N Pos. 12 ✓  
 Seq#:41; N Pos. 6,9,12,15,18,21,24 ✓  
 Seq#:42; Xaa Pos. 14,26,31 ✓  
 Seq#:43; Xaa Pos. 9,13 ✓  
 Seq#:44; Xaa Pos. 2 ✓  
 Seq#:45; Xaa Pos. 1,6,7,8,12,17,18,23 ✓

10/6/77, 519  
Page 7

<210> SEQ ID NO 24  
<211> LENGTH: 533  
<212> TYPE: DNA  
<213> ORGANISM: Conus textile  
<220> FEATURE:  
<221> NAME/KEY: CDS  
<222> LOCATION: (110)..(337)  
<400> SEQUENCE: 24

ctctgccggt tgaca<sup>o</sup>tca tctactctct cagtctccct gacagctgcc ttcagtcgac 60

Mandatory, please  
explain "N" locations.

please see error  
explanation  
on page 8.

The type of errors shown exist throughout  
the Sequence Listing. Please check subsequent  
sequences for similar errors.

Seq. (39, 41)

## VARIABLE LOCATION SUMMARY

PATENT APPLICATION: US/10/647,519

DATE: 02/13/2004

TIME: 12:04:45

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

Use of n's or Xaa's (NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.

in &lt;220&gt; to &lt;223&gt; section, please explain location of n or Xaa, and which residue n or Xaa represents.

Error Explanation: ↩

Seq#:1; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,22,23,24,25,27  
 Seq#:1; Xaa Pos. 28,29,30,31,32,34,35,36,37,38,39,40,41,42  
 Seq#:2; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,22,23,24,25,27  
 Seq#:2; Xaa Pos. 28,29,30,31,32,34,35,36,37,38,39,40,41,42  
 Seq#:3; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,27,28,29,31,32  
 Seq#:3; Xaa Pos. 33,34,35,36,37,38,39  
 Seq#:4; Xaa Pos. 1,2,3,4,5,6,8,9,10,11,12,13,15,16,17,18,19,27,28,29,31,32  
 Seq#:4; Xaa Pos. 33,34,35,36,37,38,39  
 Seq#:5; Xaa Pos. 1,2,3,5,6,7,9,10,13,14,16,28,30,31,32,33,34  
 Seq#:6; Xaa Pos. 5,14,26,31  
 Seq#:7; Xaa Pos. 1,3,7,16,31,32,34  
 Seq#:8; Xaa Pos. 1,2,4,10,19,31,34,36,37,39  
 Seq#:9; Xaa Pos. 9,13,17  
 Seq#:10; Xaa Pos. 2,3,10,12,18,26,32,33  
 Seq#:11; Xaa Pos. 3,5,16,18,22,25,31  
 Seq#:12; Xaa Pos. 1,5,8,11  
 Seq#:13; Xaa Pos. 5,8,10,15,16,23  
 Seq#:14; Xaa Pos. 4,9,12,13,17  
 Seq#:15; Xaa Pos. 8,15,16  
 Seq#:24; N Pos. 17 ←  
 Seq#:36; Xaa Pos. 3,7,8,14,18  
 Seq#:37; Xaa Pos. 1  
 Seq#:39; N Pos. 12 ←  
 Seq#:41; N Pos. 6,9,12,15,18,21,24 ←  
 Seq#:42; Xaa Pos. 14,26,31  
 Seq#:43; Xaa Pos. 9,13  
 Seq#:44; Xaa Pos. 2  
 Seq#:45; Xaa Pos. 1,6,7,8,12,17,18,23



## VERIFICATION SUMMARY

DATE: 02/13/2004

PATENT APPLICATION: US/10/647,519

TIME: 12:04:45

Input Set : A:\2314-269seq.txt

Output Set: N:\CRF4\02132004\J647519.raw

L:21 M:270 C: Current Application Number differs, Replaced Application Number  
L:22 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:72 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0  
M:341 Repeated in SeqNo=1  
L:124 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
M:341 Repeated in SeqNo=2  
L:166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
M:341 Repeated in SeqNo=3  
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
M:341 Repeated in SeqNo=4  
L:250 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0  
M:341 Repeated in SeqNo=5  
L:274 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0  
M:341 Repeated in SeqNo=6  
L:298 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
M:341 Repeated in SeqNo=7  
L:322 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
M:341 Repeated in SeqNo=8  
L:344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0  
M:341 Repeated in SeqNo=9  
L:365 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0  
M:341 Repeated in SeqNo=10  
L:389 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0  
M:341 Repeated in SeqNo=11  
L:409 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0  
L:433 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:0  
M:341 Repeated in SeqNo=13  
L:453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0  
M:341 Repeated in SeqNo=14  
L:473 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0  
L:734 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:24 ✓  
L:734 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24 after pos.:0  
L:1091 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0  
M:341 Repeated in SeqNo=36  
L:1113 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:1140 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:39 ✓  
L:1140 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:39 ✓  
L:1140 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0  
L:1168 M:258 W: Mandatory Feature missing, <221> Tag not found for SEQ ID#:41 ✓  
L:1168 M:258 W: Mandatory Feature missing, <222> Tag not found for SEQ ID#:41 ✓  
L:1168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
L:1184 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0  
M:341 Repeated in SeqNo=42  
L:1206 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0  
L:1224 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0  
L:1241 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0  
M:341 Repeated in SeqNo=45